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ABSTRACT

The factor structure of an inventory of attitudes toward teaching before actual classroom experience and the changes in those attitudes following a semester of student teaching were investigated. A questionnaire designed to sample opinion about teaching and children was administered to 33 elementary education majors before and after student teaching. A significant pretest to posttest change in the direction of greater agreement with traditional methods of teaching as compared to the more progressive methods was noted. However, it was also observed that a student teacher may become more traditional in his/her views on everyday classroom management without abandoning a basic "progressive" idealism. (Authors/JD)

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Attitude and Attitude Change in Student Teachers

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Objectives

The purposes of this study were (i) to investigate the factor structure of an inventory of teacher attitudes toward teaching and (ii) to assess changes in those attitudes following a semester of student teaching at the elementary level.

Perspectives/Theoretical Framework

Nearly three quarters of a century ago John Dewey (1902) outlined two basic points of view regarding education, generally identified as "progressive" and "traditional". During the first fifty years or so following the publication of Dewey's essay, little effort was made to study experimentally the nature or structure of attitudes toward education. The conventional wisdom held that persons with progressive attitudes would tend to disagree with traditional ideas, while those with traditional views would look with disfavor on progressivism. In other words, the attitude domain was believed to be unidimensional.

During the past two decades, however, several researchers have questioned the unidimensional model of teacher attitudes. Some studies indicate that there are two basic orthogonal dimensions of teachers' attitudes toward teaching - one usually labeled "progressivism" and the other, "traditionalism" (Kerlinger and Kaya, 1959; Kerlinger, 1967; Wolfe and Engel, 1975). Other studies (e.g., Horn and Morrison, 1965; Yee and Fruchter, 1971; Wehling and Charters, 1969) have found from five to eight factors. In each case, however, at least one of the dimensions focused on issues of classroom management, teaching basic academic skills, and the need for structure and control - i.e., on "traditional" concerns. (A representative statement from the traditional domain is the following: "A pupil should be required to stand when reciting"). A second dimension typically deals with the issue of how broadly

the curriculum should be defined ("Emotional and social development are as important in the evaluation of pupil progress as academic achievement") - i.e., with "progressive" concerns.

Although the structure of the teacher attitude domain is an interesting problem in its own right, the question of attitude change is perhaps of more practical significance to those concerned with the training and professional development of teachers. Several recent studies have investigated the effects of field-based experiences on preservice teachers (e.g., Mahan and Lacefield, 1976; Harty, Mahan and Cole, 1976). Most of these studies have concluded that (i) student teachers are initially more liberal or progressive than the experienced teachers under whom they work, and (ii) there is a significant shift toward a more conservative or traditional position on the part of student teachers, following the field experience.

One possible explanation for the shift toward traditionalism is that it is the result of the student teacher's attempt to reduce the cognitive dissonance between his/her attitudes and those of the supervising teacher (Mahan and Lacefield, 1976). An alternative explanation is that the student teacher experiences what Jackson (1971) has called "reality shock". That is, dissonance arises because the novice encounters sizable discrepancies between teaching as described in textbooks and college courses, and teaching as it is actually experienced.

In spite of recent evidence that teacher attitudes vary along more that a single dimension, the studies of student teacher attitude change cited above appear to assume a unidimensional model (traditional vs. progressive, authoritarian vs. democratic, teacher-centered vs. learner-centered, and so on). This model requires that a shift toward more traditional attitudes be accompanied by a comparable shift away from progressivism. On the other hand, if a two-dimensional model, such as Kerlinger's, is assumed, attitude shift may occur along one dimension and not along the other, or it may occur in the same direction along both

dimensions. Thus, a student teacher may become more "traditional" in his/her views on everyday classroom management without abandoning a basic "progressive" idealism.

Method

A 42-item Likert-type scale was constructed to sample opinion about the nature and needs of children, classroom management and discipline, the curriculum, the function of school in society, and appropriate teacher behavior. The scale was administered in the spring of 1976 to senior education majors at the University of Delaware immediately before and after a semester of student teaching at the elementary level. Respondents were asked to rate their feelings about each statement on a scale of 1 (strongly agree) to 5 (strongly disagree). A nonmetric multidimensional scaling procedure (Guttman, 1968; Lingoes, 1966) was used to analyze the structure of the set of pretest responses. This method was selected for the following reasons. Traditional factor-analytic methods seek to identify clusters of variables with high inter-correlations (in the Pearson sense) and relatively low correlations with other clusters of variables. The newer nonlinear multidimensional scaling (MDS) methods have the same basic objective - that of finding the underlying dimensions of a domain of variables. In MDS, however, the Pearson correlation coefficient is replaced by a more general proximity measure, which may be an index of similarity, substitutability, assocation - or correlation. In MDS, one seeks to determine that configuration of points in the Euclidean space of smallest dimension such that the distances between pairs of data points are inversely related to the proximity data. For example, two variables with a high Pearson correlation coefficient will also have a high proximity measure, and will be close together in Euclidean space. However, the linearity assumption of the factor analysis model is replaced by the much less restrictive requirement that inter-point distances be monotonically related to the proximity data. In view

of the small sample size and the restricted range of data values, it was felt that MDS would result in greater parsimony and interpretability than ordinary factor analysis.

Data Source

Thirty-three elementary education majors at the University of Delaware participated in the study. Responses were secured under conditions of anonymity; numerical coding was used to match pretest and posttest scores.

Results and Conclusions

A seven-dimensional solution was found to account for approximately 59 percent of the pretest response variance. In order to facilitate interpretation of the factors, the following procedure was used. First, all those factor loadings equal to or greater than 0.35 in magnitude were identified as salient. Next, each statement with a salient loading on more than one factor was assigned to that factor on which its loading was the largest. Statements with salient loadings on only one factor were assigned to that factor, while statements without salient loadings on any factor were eliminated from further consideration. Thus, each statement retained was associated with only that factor with which it correlated most highly. This procedure resulted in two major factors with 10 and 8 statements, respectively. The remaining five factors each had only four statements with salient loadings, and were not readily interpretable. Statements on the first major factor had a strong "traditional" orientation, while the statements on the second major factor were decidedly "progressive" in tone. (See Tables 1 and 2). Because of the small sample size, these factors must be interpreted with caution; however, the results appear to agree with the results of previous studies and tend to confirm the relative orthogonality of the "progressive" and "traditional" points of view. Pre- and posttest scores on each of the first two factors were estimated for each subject by summing the ratings given each statement on the factor (Gorsuch, 1974). (Ratings were reflected in the case of

statements with negative loadings). A significant pre- to posttest shift was observed in the direction of greater agreement with the statements on the first factor (correlated $t = 2.52$, $df = 32$, $p < .05$). No significant shift was found on the second factor. These results are consistent with Kerlinger's two-dimensional model, and lend further support to the notion that the so-called progressive and traditional orientations are independent of each other. An examination of the statements on Factor I which showed the greatest change ("Above all else, children should learn the proper behavior of a good student" ; "No child should rebel against authority" ; and "A well established classroom routine enhances the emotional stability of pupils") suggests that student teachers may have developed increased concern for control over the classroom situation, and for a disciplined approach to subject matter, following exposure to the realities of teaching. Factor II tended to focus on children's nature and needs, and on their social and emotional development. Beliefs about these aspects of teaching may be more central (Rokeach, 1975) and therefore less susceptible to change than those expressed in Factor I. Further investigation of student teacher attitude change with larger samples is needed before useful generalizations or recommendations for classroom practice can be made.

Educational/Scientific Importance of the Study

There have been innumerable studies of the effects of different teaching methods and styles, and types of schools, on pupils. There is far less adequate research on the manner in which teachers' behaviors and personalities are modified by their training and their experiences in the school system. Haney and Zimbardo (1975) have observed that most teachers are idealistic and well-intentioned at the beginning of their careers; however, the complex demands of their professional role often produce frustration and cynicism, which may be displaced onto their pupils. An investigation of those environmental pressures may be of particular importance during the student teaching period. On the one

hand, student teachers are placed in a situation where they must observe and model the supervising classroom teacher, whose values and goals they are expected to adopt. On the other hand, they are often exposed to the gap between theory and practice for the first time when, as student teachers, they are required to cope with a roomful of restless pupils.

Suppose that we assume a two-dimensional model of the teacher attitude domain. If attitude change only occurs because the student teacher attempts to reduce the dissonance between his/her values and those of the supervising teacher, we should predict changes along both dimensions in the direction of greater agreement with the supervising teacher. However, if the primary impetus for change comes from the demands of managing a real-life classroom, we should expect change along a single dimension - the management, or "traditional" dimension. Studies, both cross-sectional and longitudinal, of teachers' attitudes at various stages in their careers may help to identify those points at which the process of becoming and being a teacher has its greatest impact.

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Table 1. Factor I

Statement number	Pretest mean	Posttest mean	Factor loading	Statement
6	4.26	4.48	0.44	Shy pupils especially should be required to stand when reciting.
13	3.21	3.03	0.57	Pupils must learn to respect teachers if for no other reason than that they are teachers.
20	3.06	2.88	0.65	Above all else, children should learn the proper behavior of a good student.
26	3.68	3.48	0.46	The child must learn that "teacher knows best."
31	2.18	2.50	0.43	Above all else, children should learn the "Hard Skills" such as reading and arithmetic.
33	3.09	3.18	0.46	If a child wants to speak or to leave his seat during the class period, he should always get permission from the teacher.
35	3.47	3.55	0.78	Learning should be structured primarily around teacher direction.
39	2.71	2.48	0.73	Pupils must be kept busy or they soon get into trouble.
41	3.47	3.24	0.73	No child should rebel against authority.
42	2.15	1.78	0.71	A well established classroom routine enhances the emotional stability of pupils.

Table 2. Factor II

Statement number	Pretest mean	Posttest mean	Factor loading	Statement
2	2.55	2.91	0.37	The most important thing a child learns in elementary school is how to get along with peers.
4	4.18	4.24	-0.39	Children are too carefree.
7	1.76	1.61	0.36	Children can be used to help maintain discipline in the classroom.
12	2.79	2.68	0.46	Pupils gain more satisfaction from doing a difficult task well than from any other achievement.
18	2.85	2.70	0.56	Teachers who do not like pupils will usually decide on and plan lessons alone rather than use pupil participation.
25	2.32	2.24	0.47	Teachers must always be prepared to explain to pupils interrelationships among various elements of the overall curriculum.
28	2.41	1.97	0.63	The attitudes learned by a student are often the most important result of a lesson or unit.
32	2.06	2.39	0.48	Nothing captures students' interest in school work as quickly as allowing them to wrestle with problems of their own choosing.